

W5YI

America's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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...and much much more!*

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March 1, 1997

Gingrich Cell Phone Flap May Lead to Tougher Receiver Laws!

"Electronic Stalkers" Must Be Stopped, House Members Told

A February 5 hearing in the House of Representatives on cellular and cordless phone privacy turned into a high-decibel attack on scanner hobbyists. The hearing was the first in a series that is expected to lead to new enforcement actions, tougher language in the 1986 Electronic Communications Privacy Act (ECPA), and tighter restrictions on the design and availability of VHF-UHF scanning receivers.

The hearing was prompted by the recent scandal in which House Speaker Newt Gingrich's cellular phone call was received, recorded and disclosed, allegedly on a 200-channel police scanner modified for this purpose. Lawmakers are looking into how a Florida couple, John, 50 and Alice Martin, 48 were able to easily tape a December 21st conference call among Republican leaders discussing damage control for House Speaker Newt Gingrich's ethics case. Parts of the tape were subsequently printed in The New York Times.

The public accessibility of cellular phone signals has plainly enraged members of the House Telecommunications Subcommittee, who convened this event as their first official hearing after the November elections. This subcommittee of the House Commerce Committee has jurisdiction over the FCC.

The subcommittee chairman is Rep. Billy Tauzin (R-LA). His staff members posted a large sign outside the hearing room: "Scanner Demonstration

In Progress: Do Not Use Cellular Telephones." The highlight of the packed hearing was the "live" modification of a scanner, in front of TV cameras. The scanner was then used to listen into a call made between cellular phones inside the room.

"Once the scanner finds you, there is no getting away," warned Thomas Wheeler, president of the Cellular Telecommunications Industry Association (CTIA), the day's "star" witness. To fight what he called "electronic stalkers," Wheeler asked Congress to ban interception "no matter whether it is a cordless phone, a cellular phone, a PCS (Personal Communications Service) phone, wireless LANs, all consumer technologies, regardless of whether they're analog or digital and regardless of frequency."

Another witness, and the target for most of the attacks, was Bob Grove, WA4PYQ, publisher of Monitoring Times and Satellite Times magazines and owner of Grove Enterprises (Brasstown, NC). The company sells shortwave, scanner and satellite equipment and radio books.

Grove was not subpoenaed by the subcommittee. He was invited to testify voluntarily. But the subcommittee staff said that "...they might take you away in handcuffs afterward, and we'd like you to sign a waiver holding us harmless from any lawsuit," he reported. "With a gracious invitation like that, how could I refuse?" he told us.

House members repeatedly called Grove "repugnant." Rep. Edward Markey (D-MA) vowed to

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make Grove's sales "drop precipitously."

The ECPA bans reception of cellular and cordless transmissions, provided that the reception is "intentional." Cellular phones mainly use ordinary FM that can be received on scanners, as well as on older TV sets and VCRs that tune channels 80-83. Scanners with 800-900 MHz coverage can receive cellular directly. Scanners without such coverage can receive cellular via the image frequencies generated internally, or with the use of an external frequency converter -- or, in many cases, with modifications that violate FCC rules. Virtually every scanner can pick up conventional cordless phones in the 46 and 49 MHz spectrum.

Since 1994, federal law has prevented the marketing of scanners that tune the cellular bands. The deleted frequencies can often be restored by simple wiring changes or even keyboard sequences. Bob Grove said that until government agencies inquired into the matter, his company modified scanners to restore the deleted tuning ranges.

Joining Grove and Wheeler at the witness stand were Gary Shapiro of the Consumer Electronics Manufacturers Association (CEMA); Jay Kitchen, president of the Personal Communications Industry Association (PCIA); and Jerry Berman of the Center for Democracy and Technology.

Later in the day, FCC General Counsel William Kennard, FCC Office of Engineering and Technology chief Richard Smith, and representatives of the FBI and Department of Justice appeared before the subcommittee. The chairman strongly criticized the FCC and FBI for not doing more to fight illegal scanning, and for not "surfing the Net" to find illegal modification information.

Within hours, the Commission announced that it slapped Ace Communications (Fishers, IN), with a \$20,000 fine for allegedly selling scanners without FCC authorization.

Here are a few excerpts from the testimony:

James Kallstrom, FBI:

"It is unfortunate that there are a number of publications, trade magazines, and sites on the Internet where information is available concerning techniques and devices for conducting unauthorized, illegal interceptions. Cellular hacker information and related product information can be found in abundance on the Internet. Privacy and security are put at risk when this information is directed to the general public, as opposed to authorized law enforcement agencies and telecommunications carriers."

Gary Shapiro, CEMA:

"We asked some 150 Americans who have used a cellular telephone what they thought about cellular telephone privacy. The bottom line is that most users believe their conversations on cellular phones are less

secure than on corded phones at home. The trade-off between security and cost indicates that most Americans with cellular telephones are willing to accept lessened privacy rather than pay a premium for a secure telephone."

Jay Kitchen, PCIA:

"Unlike our cellular competitors, all Personal Communications Service (PCS) telephones transmit a digital signal...making it virtually impossible to intercept without high-tech equipment. If one attempted to intercept a PCS signal, much of what they would hear would be like the squeaks and squeals that you hear when you are logging onto the Internet or sending a fax. Nearly all cellular telephones, on the other hand, transmit information much like a radio or television wave allowing calls to be easily intercepted by a scanner or even an older television."

Jerry Berman, Center for Democracy and Technology:

"As cellular telephones become more ubiquitous, cellular scanning threatens the privacy of all telephone users. ...We know that manufacturers, retailers and individuals have taken a very narrow view of this law, and consequently scanners are widely available still that intercept cellular telephones. We believe that Congress should take a serious look at closing the ambiguities in the scanner law."

Thomas Wheeler, CTIA:

"The situation is going to get worse. The law now only protects cellular frequencies. PCS, specialized mobile radio, satellites -- it is legal to manufacture and sell receivers for them. ...There is a \$30,000 device to capture and decode digital signals. Therefore, the ultimate solution isn't in the phones -- it's in the interception."

"Technology isn't on the side of privacy. Today's expensive decoder is tomorrow's Radio Shack special. ...It is time for the electronic stalkers and for those who cater to them to stop thumbing their nose at the Congress and trampling on individual rights."

Bob Grove, WA4PYQ, Grove Enterprises:

"With the CTIA an ever-present specter behind the drafting of repressive listening legislation, the cognizant public perceives the Electronic Communications Privacy Act as a fiscal expedient of the CTIA, lobbied into law to provide a no-cost alternative to offering their customers real privacy, and endlessly blaming the harmless hobbyist for listening to his scanner... Public news releases from the CTIA have routinely maligned law-abiding scanner owners as eavesdroppers, voyeurs, and even 'techno-snoops,' a perennial favorite..."

"The general impression by the wary public is that even this hearing may be a facade orchestrated by the cellular industry to impose further restrictions on the

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general public, thus perpetuating the illusion of privacy, rather than adopting existing technology to provide real privacy to their trusting customers."

FCC General Counsel William Kennard:

"We at the Commission are committed to effective enforcement...We are undertaking a thorough examination of our current scanning device authorization and enforcement processes to ascertain whether our rules and implementation efforts are as effective as they can be."

FCC issues clarifying statement

The FCC on February 13, 1997 released a public notice titled "Manufacturing Illegal Scanners Includes Scanner Modification." The FCC stated, "The modification of scanners on a substantial scale to receive cellular frequencies will be considered to constitute manufacture of such equipment in violation of FCC Rules. Entities engaged in such activity are cautioned to cease advertising and/or performing any such activity immediately."

Rule Section 15.121 states that scanning receivers, and frequency converters designed or marketed for use with scanning receivers, must be incapable of operating, or readily being altered by the user to operate, within the frequency bands allocated to cellular telephones.

"According to a high-ranking member of the Subcommittee, the industry can expect more stringent laws to punish willful interceptors of protected communications, aggressive enforcement of present and future laws, heavier fines, [and] civil as well as criminal penalties for infractions," Bob Grove said.

Among other changes being contemplated by legislators, he reported, are "hardening" scanner circuits to prevent modifications, and a move from law enforcement agencies to remove police frequencies from scanners.

Manufacturer requests greater image rejection

Meanwhile, Uniden America Corp. filed a Petition for Rulemaking that asks the FCC to increase rejection of cellular image frequencies in scanners to -38 dB minimum. "Users are illegally, and in some cases innocently, monitoring the image frequencies of the prohibited cellular bands which are outside the 'blocked' bands of the scanner and which are often used for other communications services," Uniden told the FCC.

"Compounding the problem, information about image frequencies has recently been found in on-line services on the Internet and elsewhere. Uniden does not support such misuse," the company said.

The FCC put the petition out for public comment very quickly. Uniden filed it on Monday, February 3, and the Commission assigned it number RM-9022 on Friday, February 7. While petitions can easily languish at the FCC for months and even years with no action, this one-week turnaround evidences what can happen in the glare of Congressional oversight.

ETHEL SMITH, K4LMB, DEAD AT AGE 79

One of the nation's best known lady ham operators passed away on Feb. 5 -- one week before her 80th birthday. A ham for more than six decades, Ethel Smith of McLean, Virginia was first licensed as a teenager in Wenatchee, WA as W7FWB. In the early days, few women pursued Amateur Radio. Ethel believed it was also a hobby for women and formed the Young Ladies Radio League (YLRL) in 1939 and was its first president.

Ms. Smith served in both the Army and Navy during World War II ...and later the Naval Reserve. A very active amateur, Ethel more or less dedicated her entire life to ham radio. She even passed her Extra class license examination at age 79.

Ethel was one of the founders of the Foundation for Amateur Radio (FAR), served as Virginia SEC from 1966 to 1969 and was an ARRL Assistant Director under four different Roanoke Division directors.

In addition to being a member of ARRL, Ethel Smith was a previous general manager of the QCWA and a member of its Board of Directors. Her other recognitions include: Washington, DC Ham of the Year (1965); Dayton HamVention Special Achievement Award (1984); QCWA Roll of Honor (1987); Radio Club of America Fellow (1988); Foundation for Amateur Radio Ham of the Year (1993) and ARRL Roanoke Division Service Award (1972) which was instituted in 1968 by Roanoke Division Director, Vic Clark, W4KFC.

Vic intended the award to be recognition for a long history of significant and consistent contribution to Amateur Radio. Ethel certainly was all that ...and more. She will be sadly missed. In accordance with her expressed wishes, no memorial services were held. (Thanks: ARRL, WA6ITF, K4KYO and others.)

■ **The Amateur Service reorganization proposal by the ARRL's WRC-99 Planning committee** was a hot subject at both the Miami Hamboree and Orlando HamCation conventions held in Florida the first two weeks of February. Several hams stopped by our booth to discuss it. Most were in favor ...although there were those who thought it went too far ...or not far enough! The proposal had wide appeal since it offered something for everyone.

And there was much confusion on the part of several amateurs who thought the Committee's suggestion was an ARRL Petition for Rulemaking. Basically the WRC-99 Planning Committee wants to eliminate the Novice license and replace the Technician Plus license with a new (200 watt maximum) Intermediate Class with greater HF privileges on 160, 75 and 15 meters. The Technician Class would be renamed "Basic." The plan provides for an easy Novice upgrade to the Intermediate level. The General CW test would go to 10-wpm with a required one minute solid copy format and a sending test. General, Advanced and Amateur Extra Class licensees would all get expanded phone privileges. The ARRL Board will act on the proposal after a 90 day membership comment period. See March QST for details.

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AMATEURS URGED TO SEND COMMENTS TO FCC

The following message concerning amateur spectrum was simultaneously distributed to all amateurs on February 14th by both the Radio Amateur Satellite Corp., (AMSAT News Service Bulletin 047.01) and the American Radio Relay League (ARRL Bulletin 8).

COMMENTS NEEDED, LITTLE LEO

Commercial satellite interests seeking access to bands below 1GHz -- including amateur allocations at 146 and 430 MHz -- now have added 220 MHz to their "wish list." For the first time, Little LEO (low-earth-orbiting satellite) interests have proposed including 219-225 MHz in their list of desired allocations for the non-voice, non-geostationary (NVNG) mobile-satellite service (MSS).

The move was contained in the industry's so-called "flexible allocation proposal," delivered at the February 13, 1997, meeting of FCC Informal Working Group (IWG) 2A. Little LEO targets now include 146 to 148, 219 to 225 and 430 to 450 MHz.

The ARRL and AMSAT were among those objecting to the concept, and the League is urging those who agree with their position to comment to the FCC by March 4. IWG-2A has been preparing draft proposals for the 1997 World Radiocommunications Conference (WRC-97). These will be reviewed during a March 5 meeting of the FCC's WRC-97 Industry Advisory Committee that is preparing draft proposals for consideration by the United States as it gets ready for WRC-97.

The ARRL and AMSAT statement said the latest proposal affecting amateur allocations in the 219 to 225 MHz segment came "at the last possible moment" and "without any technical support whatsoever." The League and AMSAT pointed out that the little LEO proponents have had more than a year to complete a technical study of the possibilities of sharing with the amateur services in the 144 to 148 MHz and 420 to 450 MHz bands. "They have not demonstrated compatibility for sharing these amateur bands but over the evolution of their document have proposed various 'new ideas' for use of these bands."

The little LEO flexible allocation strategy for WRC-97 -- submitted as IWG-2A/86 (Rev. 6) -- is to propose broad allocations. The apparent theory is that most administrations would find reasons to oppose little LEO use of specific bands in the crowded spectrum below 1 GHz, but that a broad allocation would permit different implementations in different countries depending on local circumstances.

At the February 13 meeting, a coalition of spectrum interests -- including land mobile, amateur, broadcasting, and military -- opposed the flexible allocation concept on three grounds: that the concept is simply an invention to avoid performing technical sharing studies that would demonstrate the unfeasibility of sharing; that it is inconsistent with decades of ITU allocations practices; and that, if adopted, the concept would be counter to US interests. The coalition document is identified as IWG-2A/107.

The ARRL and AMSAT submitted a further statement of opposition, citing the absence of any technical studies that might support sharing with the amateur service or the amateur-satellite service and pointing out that the little LEOs have completely mischaracterized the nature of ITU Resolution 640 regarding the use of certain amateur bands in the event of natural disasters. The ARRL/AMSAT paper, revised to reflect op-

position to the late proposal to include 219-225 MHz, is identified as IWG-2A/108 (Rev. 1).

Amateurs also might find interesting the comments of the Department of Defense, identified as IWG-2A/101 (Rev. 1). These address the 430 to 450 MHz segment the Little LEOs seek to share.

Anyone wishing to register support for the ARRL/AMSAT submission should send a brief e-mail message to: wrc97@fcc.gov. The Subject line should say "Reference No. ISP-96-005 IWG-2A." A simple statement to this effect, "I support the ARRL/AMSAT opposition to the NVNG MSS flexible allocation proposal," will be included in the public record and will help to drive home the point that there is broad-based opposition to poorly conceived sharing proposals.

Please note. The proposals the League opposes are not FCC proposals, nor are they endorsed by any other branch of the government. They are industry proposals. The League's objective is to demonstrate there is broad citizen opposition to the industry proposals, so the government will not adopt them as US proposals. So, please don't "flame" the FCC if you comment.

Additional arguments or evidence also is welcome. Important. Comments should reach the FCC no later than March 4, 1997. The complete ARRL/AMSAT opposition statement and other comments will be posted by February 15 on the ARRLWeb page, <http://www.arrl.org/> under Band Threat News.

What is a "Little LEO" and what is all the fuss about?

Little LEOs are small Low Earth Orbit (LEO) satellites which provide low cost, global narrowband data and messaging through small, low-power transceivers. The satellites operate at frequencies below 1 GHz to take advantage of favorable signal propagation and low cost transmission equipment. Applications include cargo tracking, utility meter reading, monitoring of remote meteorological, geological or maritime instruments, paging, computer and personal communications.

Little LEO is the everyday term for NGSO MSS<1 GHz, which stands for non-geostationary orbit mobile satellite service operating below 1 gigahertz. Since LEO satellites are positioned in orbits much closer to the Earth, they are able to receive signals from devices as small as a pocket-sized mobile phone.

There are currently only minimal allocations available to Low Earth Orbit satellites. (Worldwide: 400 MHz; ITU Region 2: 455-456 and 459-460 MHz.) The Little LEO industry has focused their efforts on obtaining additional spectrum and WRC-97 will consider possible additional Mobile Satellite Service frequency allocations.

A working group has been formed (Industry Working Group-2A) to coordinate preparatory efforts for WRC-97. (The ARRL technical relations staff participates in IWG-2A to represent Amateur Radio interests.) A total of 6 to 10 MHz is needed in each direction -- Space-to-Earth and Earth-to-Space -- to satisfy the expected demand for Little LEO services. Industry wants to find and share spectrum between 100 and 500 MHz. There is reason to believe that Little LEOs cannot co-exist with existing services without causing significant interference.

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EMERGING TECHNOLOGY

■ **Progressive Networks, the company that brought "Real Audio" to the Web has now launched "RealVideo"** in hopes that it will become the Internet video standard. "RealVideo" permits real-time video to be delivered to a PC over a 28.8 bps modem. Ten million people have now installed "RealAudio."

The free "RealPlayer" software permits users to run both "RealAudio" and "RealVideo." (<http://www.realaudio.com>) Full motion video is not expected to be commonplace on the Net for at least two more years when faster connections will improve the quality. Its first use will be by advertisers who want to add motion to their Web commercials.

Microsoft, which has their own Net-Show video technology, will build "RealPlayer" into upcoming versions of its Internet "Explorer 4" browser. Time-Warner, ABC, C-Span will use the new RealVideo software to send news, music and sports events across the Internet.

"Video Chat," (the wireline video version of ham radio ragchewing) is expected to be a killer application. There is no telling what you will be seeing over the totally unregulated Internet.

■ **Academy Awards Day (March 24) is when Time Warner Home Video will begin releasing its first DVD movie titles** including *Twister* and the *Wizard of Oz* (at about \$25 each.) From that point on, you will be hearing a lot about Digital Versatile (no longer "Video") Disks. Time Warner will release 40 titles; Sony's Columbia TriStar Home Video will introduce 50. Panasonic, Pioneer, Samsung, Thomson and Toshiba plan big DVD Player introductions! Sony will launch its player in April. DVD players (priced from \$500 to \$1500) can play a full length digitized movies on one 5-inch CD-sized disk at much higher quality than analog VCRs.

COMPUTER INFO

■ **Apparently things at Apple Computer are much worse than first thought!** It is hard to understand how a company with \$60 billion in annual sales can lose \$1 billion, but such was the case for Apple in 1996. They now barely have enough cash to meet payroll, fund

receivables and pay bills. And their problems continue to mount! Apple's market share is eroding, gross profit is decreasing, and their core of software developers are jumping ship.

About one quarter of their 13,400 employees are in the process of being laid off. Still, Apple users are strongly supporting the architecture. But their support isn't paying the bills. Co-founders, Steve Jobs and Steve Wozniak have now been brought back on board to advise Apple CEO, Gil Amelio. Effective immediately, all executive bonuses are suspended until Apple turns a profit. (Amelio earned more than \$2.3 million in bonuses last year.) The biggest hurdle Apple faces is how to convince customers to buy a computer from a company whose future is uncertain.

The good news is that Apple clones are starting to do pretty well! In 1994, Apple decided that Apple compatibles would provide a needed larger base for their software writers. And in the final quarter of 1996, some 120,000 Apple clones (13% of all Macintosh sales worldwide) were sold. The bad news, is that it wiped out Apple's growth as their sales dropped from 932,000 to 923,000.

"Real" Apple sales continue to deteriorate, (worldwide market share fell last year from 7.9% to 5.2%) while the clones are having dramatic sales gains! It's hard to figure out! The 1996 best selling PC brand in units? For the third year in a row it was Compaq. But Hewlett-Packard had the biggest percentage sales increaseabout 50%. (A total of 70 million personal computers were sold last year.)

■ **Cable modems are not even available yet and already they may be obsolete!** The reason is that DBS (direct broadcast satellites) can also deliver high speed data and PC cards are becoming available that can accept the information. A telephone line terminating at an uplink site provides the return path.

■ **The Intel Pentium® Processor just keeps getting faster!** The first Pentium (at 60 MHz) was introduced on March 22, 1993. Then came 66, 75, 90, 100, 120, 133, 150, 166, and (just last June) 200 MHz versions. On February 7, Intel demonstrated a 400 MHz Pentium Pro Microprocessor with 7.5 million transistors on a chip less than 2-inches square!

■ According to the 15th annual Corporate Reputations Survey in the March 3rd

issue of Fortune magazine **the two most admired high technology companies are Microsoft and Intel.** The rating is based on a survey of over 13,000 senior executives, outside directors and financial security analysts. Both firms performed exceptionally well for shareholders over the last ten years with an almost identical 44% annual return rate! The high tech company taking the biggest plunge was AT&T - mostly due to its downsizing, poor profit performance and 40,000 employee layoff.

INTERNET NEWS

■ **Get ready for a big promotional push for Sprint Corp's new "Passport" Internet service.** The last of the "Big Three" thus joins AT&T's "WorldNet" and "InternetMCI" in the consumer Internet access war. "Passport's" 30-second TV message will be that the service is so simple even your mother can get online. Like the competition, Sprint will offer 30 day free trial and then charge \$19.95 for unlimited access. Sprint has started off slow, something that AT&T did not which caused severe network and customer service problems during the launch. For the past three months, Sprint Internet "Passport" has only been sold through Blockbuster stores. Their subscriber base is now about 60,000, while AT&T WorldNet has 600,000. InternetMCI: 200,000.

■ **American OnLine has hired a new VP-Director of Marketing** and will begin a targeted online and direct mail campaign this summer. Apparently AOL believes their problems will be over by then. The service is installing new ad servers and embarking on a campaign to make advertising eventually account for 30% of revenue (or \$120 million.) They have more than 8 million subscribers.

And the **CEO of CompuServe, the nation's number two online service with 3.3 million subscribers has called it quits** for "personal reasons." Their stock price has fallen 64% since it went public last year and it reported a \$24.5 million loss for the quarter ended Oct. 31 versus a \$13.9 profit a year ago.

■ **Look for a series of Microsoft category-specific Web Superstores to spring up on the Internet.** Microsoft intends to be the dominant force in "big ticket" electronic commerce. Microsoft

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already has their glitzy "Expedia" travel service (at <http://www.expedia.com>) and "CarPoint" (at <http://carpoint.msn.com>) automobile sales sites operating on the Web. Real-Estate and financial services (banking) are planned to be next! Check out both "Expedia" and "CarPoint" if you want to see the direction that electronic commerce will be taking. Both sites are VERY well done!

Another Internet car-buying service, "Auto-By-Tel" plans to go public shortly. They have filed for a \$50 million IPO (initial public offering) with the SEC. Auto-By-Tel connects tens of thousands of car buyers to nearly 2,000 dealers who sign contracts (i.e. pay money) to receive the referrals. So far they have not been profitable.

■ **You'll be seeing web addresses advertised everywhere! And with good reason; the Internet is destined to be a major sales conduit by the turn of the century!** But just how much is open to speculation. All agree, however, that it will be substantial! New York based Jupiter Communications believes online transactions will reach \$7.3 billion by the year 2000. The Yankee Group in Boston estimates that consumers will spend \$10 billion. IDG (International Data Corp of Framingham, MA) says the figure will be \$32 billion! The Yankee Group estimates that 1996's 14.5 million Internet users will swell to 43 million households by the year 2000 with 79% shopping on the web. The average transaction: \$65.

■ **The Netscape "Navigator" (web browser) is steadily losing market share to Microsoft's "Explorer."** Netscape's once 80% market share is now down to 59% ...and falling! Microsoft has been gaining ground by signing exclusive deals. Another indication: Microsoft shares are trading near its 52 week high ...Netscape, near its 52 week low.

■ **And get ready for Microsoft's rollout of their Internet "Explorer 4."** The beta version should be available for downloading by the time you read this. It will have all sorts of neat features such as a customizable and "dockable" tool bar, a new Search Pane, new printing features, AutoComplete typing in the address box, a different method for accessing favorite sites, closer integration between the browser and the operating system ...and the ability to access navigation history on the Back and Forward buttons.

Netscape's new "Constellation" browser is also due within 90 days. Both will offer a way to deliver wanted data to users without the need of a third-party "push" system. (See related story last issue, page 10.)

■ **Supposedly the World's Largest Online "Global Casino" was to open its doors** to real money transactions on February 15th. But we checked the web-site at <http://www.gamblenet.com/> and they still have the beta "Global Casino" in operation with a Mardi Gras theme. Supposedly the site cost \$1.8 million to develop. The servers are in the Caribbean island of Grenada. Analysts have predicted Internet wagering will become a \$10 billion dollar a year industry. The U.S. is still trying to find a way to stop them, but they operate beyond government reach.

But in-flight "video-on-demand" and casino gambling did begin on time. Swissair offers 9.5-inch screen seat-back movies (\$7.95), computer games (\$5.00 hour) and lotto, keno and video slot machines (maximum loss \$200) over international waters. Part of the profits go to Swiss social and cultural projects.

And you'll soon be able to surf, chat and download your e-mail from your hotel room! "On Command" (TV provider to nearly 1 million hotel rooms) is teaming up with WebTV to bring the Internet to your hotel room for a fee.

■ The following tidbit comes from Don Stoner, W6TNS (Clearwater, FL.)

New Phone Scam - Do you know who your modem is calling? This is a good

one. Some enterprising hackers put up what was ostensibly an image viewer on various sex sites. In actuality, the program turns off your PC's modem speaker, disconnects you from your ISP, and dials a number in Moldova (10 points if you can point it out on a map) which then connects to a server in Canada. The victim happily surfs scantily-clad bipeds (two-footed animals ...I had to look it up in the dictionary!) while racking up hundreds of dollars in long distance charges. Charges keep mounting after leaving the sex site, because the victim's still connected to the Internet via Moldova and Canada. Neat trick. Watch out for files called david.exe and david7.exe and expect to see more trojan horse programs that play around with your modem behind your back. The *New York Times* has an excellent article in their CyberTimes section. (<http://www.nytimes.com/library/cyber/week/021197>

[scam.html](http://www.nytimes.com/library/cyber/week/021197))

WASHINGTON WHISPERS

■ **A bill has been introduced into Congress that if approved, will end all restrictions on the export of encryption technology.** The *Safety and Freedom through Encryption Act of 1997* has dozens of sponsors. More secure encryption is needed before widespread Internet commerce can take place. The White House has long opposed efforts to liberalize encryption saying that it would prevent legal eavesdropping by enforcement agencies. The administration wants encryption users to voluntarily place the keys in escrow with the government.

■ **Ruling that junk e-mail is not protected under the First Amendment, a federal judge has barred Cyber Promotions from sending unsolicited e-mail ("spams") to their mailboxes.** Both CompuServe and AOL had complained that their host computers were bogged down with junk mail and that they were getting widespread complaints from subscribers. Separately, a state legislator in Nevada has introduced the nation's first anti-spamming law which would make sending unsolicited commercial e-mail an illegal act. The legislation does not apply if there is a pre-existing business relationship. A similar federal law now exists against unsolicited business faxes.

AMATEUR RADIO

■ According to information received from an FCC spokesman on February 19, **the FCC has just completed running the "Vanity" call sign receipts from December 1, 1996 through February 5, 1997.** There were about 2,400 call sign applications on hand and about half of them hit WIPs ("Work in Progress") ...or the "error list." The FCC granted 1,344 vanity call signs on February 12. But more than a thousand could not be granted because some sort of error was made by the applicant. The FCC in Gettysburg will now start working on the applications that could not be granted. This is a very time consuming, manual labor-intensive job! There is still no word on when the FCC plans to open Gate 3 to the Advanced Class licensee.

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■ New DXCC Country possibility?

An interesting story appeared in the February 9th *Washington Post* newspaper. It seems that a remote hillside village in Italy continues to be the "Ancient Principality of Seborga." It has 308 voting citizens headed up by a self-proclaimed prince, Prince-for-Life Giorgio. They issue license plates, passports and postage stamps.

Basically they declared themselves a country eighteen months ago, reinstating a constitutional monarchy that dates from the 1700's. They manage to get by through tourism; 100,000 visitors from the French-Italian Riviera drop by to buy T-shirts and souvenirs.

Apparently they can exist, because they continue to pay taxes to Italy. Seborga was supposed to have been consolidated into Italy more than 200 years ago but the paperwork was never completed to change Seborga's independence. Visiting businessmen want to turn it into a potential gaming or tax haven like neighboring Monaco.

"Seborga's National Day celebration in August accredited 84 television teams -- CNN, ABC and the BBC included..." Their Telecommunications Minister's only background is that he is a ham radio operator. (No name or call sign was given in the article.)

■ RF Safety Question Confusion!

One of the questions on the new Element 2 Question pool asks "What amateur stations must comply with the requirements for RF radiation exposure spelled out in Part 97?" Many people seem to think that the answer should be "Stations that run more than 50 watts peak envelope power (PEP)." That is NOT the correct answer. The right answer is "All amateur stations regardless of power." This is because the new RF exposure limits are applicable to all facilities, operations and transmitters regulated by the Commission. Therefore, all amateur stations must comply with the RF guidelines. A "determination" of compliance (routine environmental evaluation) is necessary only if the transmitter power exceeds 50 watts peak envelope power (PEP). A station, however, may not exceed the RF guidelines even if it is running less than 50 watts. The question does not ask who must perform a routine RF radiation evaluation. It asks who must comply with the RF exposure requirements.

■ **We are a firm believer in our First Amendment Rights.** And that generally

means that we oppose censorship of any kind by anybody. But lately, that belief is being put to the test as more and more hate, terrorist and subversive groups are showing up on the Web. We don't think bomb-making instructions should be permitted.

A hate group is defined as an organization that advocates violence or unreasonable hostility towards people identified solely by their race, religion, national origin, beliefs, sexual orientation or gender. Lately, we have been pondering whether these websites should be allowed to use the Internet to spread their word.

Prior to the advent of the Web, hate groups had limited influence due to financial constraints and their own geographical isolation. But no more! They now can operate very inexpensively and with worldwide exposure! People can access their propaganda anonymously and there is unlimited ability to communicate with others of like mind. And it is very difficult to determine where these sites are located or who is behind them.

"Broadcasts" which would be banned on any other media are openly operating ...and are just as mainstream as the CNN, ESPN and General Motors websites. They make no bones as to where they stand!

A February 18th *USA Today* news story says, "In the past year, the number of hate-related sites on the Web has jumped from about 50 to as many as 400, and the numbers have doubled in the past three months. ...some [people] are worried about the potential effect on children."

Started in 1995, "HateWatch" (<http://hatewatch.org>) is a website that keeps up with these questionable Internet sites. There are dozens of white supremacist, racist, neo-Nazi, skinhead, militia, anti-semitic, Ku Klux Klan, white power music, anti-gay, anti-christian, anti-arab, ...anti-"you-name-it" organizations in operation on the Wide World Web. Some have very innocent sounding ...even religious or patriotic names.

One of the running features of "HateWatch" is their "new additions" page. In January 1997, a ham radio network showed up on the White Supremacist list: "The Amateur Radio Political Discussion Group." (3.950 MHz - lower sideband.) This net also operates a website at URL <http://www.usaor.net/users/ipm/> They say they are a "...meeting place for ham radio operators and shortwave listeners

concerned about the future of America and Western civilization. Many of the topics commonly discussed are those avoided or distorted by the controlled media: corrupt politics, race relations, immigration, the erosion of fundamental constitutional freedoms, and, most importantly, the ongoing destruction of America's founding race. ...Some of the most interesting 'free swinging' discussions take place every Saturday evening at 10 p.m. EST on the Liberty Net ...with W1WCR as net control." (That quote comes right from their webpage.) There are also links from their website to other hate-related webpages.

■ **British amateurs will be losing a portion of the 3-cm band effective April 1, 1997.** Both the U.S. and U.K. have an amateur allocation at 10.00 to 10.50 GHz. Britain's Radiocommunication Agency has withdrawn the 10.15 to 10.30 GHz segment from their Amateur Service to facilitate the introduction of commercial "Radio Fixed Access."

■ **The Radio Society of Great Britain (like the ARRL,) completed a survey of their amateurs concerning the importance of the Morse code.** Two-thirds of RSGB members believe that manual telegraphy should remain an international licensing requirement. (This is almost exactly the percentage of ARRL members favoring keeping CW as HF licensing requirement.) In the UK, by license grade, however, the story is different -- 79% of those who have passed the telegraphy requirements believe it should remain, while only 21% of the VHF only no-code licensees were in favor. (Most U.S. no-coders do not support retention of the Morse requirement either.) So it appears that retention of the Morse requirement is more a case of whether that milestone has been achieved rather than if it is important for other reasons.

■ **Amateurs appeared very interested in the cigarette pack-sized FRS (Family Radio Service, 462/467 MHz duplex) transceiver with flip-up antenna** that Alinco showed at the recent Orlando HamCation. The 14-channel (AA battery powered) radio appeared to be of very high quality. They couldn't sell it though, since it is not yet FCC type accepted. Street price: under \$200. FRS is an unlicensed service located just above the amateur 70-cm band designed for low power (500 milliwatt), short range (a mile or so) family communications.

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THE FCC, INTERNET SERVICE PROVIDERS (ISP) AND ACCESS CHARGES

On December 24, 1996, the FCC began a rulemaking proceeding looking towards reforming the system of interstate access charges. Each long distance telephone call you make includes per-minute fees that your long distance carrier pays to the originating and terminating local telephone companies over whose facilities that call also traveled. Those fees, which are designed to recover the costs to local telephone companies for use of their facilities, are referred to as "access charges."

The FCC asked for comment on the treatment of ISP and other "enhanced service providers" that also use local telephone companies' facilities. This issue is being considered on two different tracks:

NPRM on Access Charge Reform

The Notice of Proposed Rule Making on Access Charge Reform seeks comment on proposals to restructure the entire system of access charges paid to local telephone companies. The FCC is seeking to make the access charge system more consistent with the development of local competition in the telephone industry.

The Commission has already considered whether enhanced service providers, such as ISPs, should be required to pay interstate access charges and have tentatively concluded that they should not be subject to access charges as currently constituted. The final deadline for comments on the NPRM was Feb. 14, 1997.

NOI on Internet and Interstate Information Services

In a Notice of Inquiry (NOI) launched with this same Access Reform proceeding, the FCC would like to know what policies would best facilitate the development of the high-bandwidth data networks of the future, while preserving efficient incentives for investment and innovation in the underlying voice network. The NOI does not make any specific proposals, but seeks comment generally on the implications of information services such as Internet access for the telephone network.

The deadline for comments on the Notice of Inquiry is March 24, 1997. Reply comments close on April 23, 1997. Comments may be submitted by mailing five copies to: FCC, Office of the Secretary, Room 239, 1919 M Street, NW, Washington, D.C. 20554. You can also send informal comments on CC Docket No. 96-262/263 via e-mail by addressing them to: isp@fcc.gov.

Frequently Asked Questions

Q: Does the FCC regulate the rates charged by Internet Service Providers (ISPs)?

A: No. ISPs are considered "enhanced service providers" under FCC rules. The FCC does not regulate the rates that enhanced service providers charge to their subscribers.

Q: How does the FCC regulate the rates that local telephone companies charge to ISPs?

A: ISPs purchase local phone lines so that customers can call

them. Under FCC rules, enhanced service providers ISPs are considered "end users" when they purchase services from local telephone companies. Thus, ISPs pay the same rates as any other business customer, and these rates are set separately in each state. By contrast, long-distance companies are considered "carriers," and they pay interstate access charges regulated by the FCC.

Q: How are access charges different from the rates ISPs pay now?

A: Today, ISPs typically purchase "business lines" from local phone companies. Business lines usually include a flat monthly charge, and a per-minute charge for making outgoing calls. Because ISPs receive calls from their subscribers rather than making outgoing calls, ISPs generally do not pay any per-minute charges for their lines, which is one reason many ISPs do not charge per-minute rates for Internet access. Access charges, by contrast, include per-minute fees for both outgoing and incoming calls. The rate levels of interstate access charges are also in many cases higher than the flat business line rates ISPs pay today.

Q: Have local phone companies requested authority from the FCC to charge per-minute rates to ISPs?

A: Since 1983, there has been an ongoing debate about whether enhanced service providers should be required to pay access charges, based on the contention that these companies use local networks in the same manner as long-distance carriers. In June 1996, four local telephone companies (Pacific Bell, Bell Atlantic, US West, and NYNEX) submitted studies to the FCC concerning the effects of Internet usage on these carriers' networks. The companies argued that the existing rate structure did not reflect the costs imposed on local telephone companies to support Internet access, and that Internet usage was causing congestion in part of the local network. Several local phone companies have asked the FCC for authority to charge interstate access charges to ISPs.

Q: On what issues is the FCC asking for public comment?

A: In the Notice of Proposed Rulemaking, the FCC is asking for comment on whether ISPs and other enhanced service providers should pay the access charges now paid by long-distance companies. In the Notice of Inquiry, the FCC is asking for comment on how to create incentives for companies to make the most efficient use of the telephone network for Internet and other information services, and on the impact of different rate structures for ISPs on network usage and deployment of new technologies.

Q: Is the FCC worried about the effects of different pricing structures on the ISP industry, and on Internet usage?

A: Yes. The Commission is concerned about the effects that access charges could have on the competitive ISP marketplace, and believes that the Internet would likely not have grown so rapidly in recent years if most users had been required to pay per-minute rates for Internet access. At the same time, local telephone companies have argued that per-minute rates would more accurately reflect the costs that ISPs impose on the network, and would provide sufficient revenues to fund network upgrades needed to more efficiently handle data traffic.

Q: Is the FCC considering "surcharges" or "taxes" for use of the Internet or online services?

A: No. The FCC has sought comment on whether ISPs should be treated as end users or carriers, and has proposed initially to keep the current system in place. The debate involves charges levied by local phone companies, not government taxes.

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The creativeness and ingenuity of mankind never ceases to amaze. Two new consumer telephone communications products were introduced last week that promise lower cost calling, Internet access and e-mail.

DEREGULATION DELIVERED TO YOUR DOORSTEP

By providing consumers with call-by-call routing to the carrier who offers the lowest rate for each call. PhoneMiser™ guarantees to reduce the cost of long distance, international and local toll calls by as much as 66%. PhoneMiser from privately held MediaCom of Bedford, Mass., takes advantage of the fact that there are more long distance carriers than Sprint, MCI and AT&T.

"Deregulation of the telecommunications industry has given birth to hundreds of high quality carriers nationwide, each offering special rates for various calling patterns at given times," explained Robert Pokress, chairman and CEO of MediaCom. "Few people know that other carriers exist or how to get access to their superior rates." Pokress was previously a network engineer for Bell Laboratories, the research arm of AT&T.

There are in fact, over 400 long distance companies that offer the same all digital fiber optic phone service as the big three and regional phone companies. And there always is a lower intrastate, interstate and international rates available somewhere.

PhoneMiser finds the best rate available from among those phone companies and instantly routes your call through that carrier to pass on the savings. Routing takes only a second or two and there are no access codes to dial. You just pick up your phone and dial as you normally would. The sophisticated routing is totally transparent.

The only catch is that you must have your PC turned on. If your computer is not on, all calls default to your designated carrier. It is the first and only PC add-on that provides small businesses and residential customers with lowest-cost routing of their telephone calls.

PhoneMiser is a small device that attaches to a personal computer, which must be running Microsoft's Windows 95 software, and to a phone jack in the wall. It comes with software which instantly finds the lowest rate for any call, and a database which stores the detailed rates of telephone carriers nationwide.

The system requirements are an IBM compatible PC, Windows 95, 16 MB RAM, a 14.4 bps or faster modem and a CD-ROM drive. (And, of course, a standard analog phone line.) You can even use the computer for other things while making a phone call.

PhoneMiser does not operate through the Internet or your modem. It does, however, automatically dial out to MediaCom's server to refresh the carrier and rate information database once a month. The initial registration is also made via modem.

After registration with a valid major credit card, phone bills from individual companies are consolidated on one monthly credit card bill. All calls are billed in 6-

second increments, rather than rounded to the next full minute. MediaCom mails a separate single report with a record of all your calls. It also tracks actual savings as compared to the rate your designated carrier charges. The first three months of updates are free ...then a small service charge applies. PhoneMiser which will reach computer and home office stores this spring lists for only \$99. (<http://www.phonemiser.com>)

INTERNET PHONE AND E-MAIL FOR NON-TECHIES

Two thirds of all Americans do not have a PC or access to the Internet. And even if they did, the majority do not have the time, money or skills needed to set it up. They are more or less left out of the Internet revolution. This fall, Navitel of Menlo Park, Calif., will begin shipping the TouchPhone™. It looks like a regular phone and has the usual options.

Instead of being entertainment oriented, TouchPhone focuses on communications. To send electronic mail, touch the e-mail icon. Every hour, the TouchPhone automatically connects to the Internet and downloads your e-mail. A light lets you know if you have mail.

A big advantage of this computer-based screen telephone versus the so-called Net Computers is its cost and simplicity. NC appliances will cost between \$700 and \$1,000. A single line TouchPhone costs only \$299. The \$499 model can handle two lines and includes a mini-version of Microsoft's Internet Explorer browser.

The Navitel TouchPhone is the world's first device to integrate true Internet access, a state-of-the-art telephone, with digital voice mail, caller ID, a telephone directory; and a Personal Information Manager - all in a standard low-cost, easy-to-use telephone.

The TouchPhone can take you anywhere on the World Wide Web, combine e-mail and voice mail in a single directory, log every incoming and outgoing call, provide distinctive ringing based on caller ID, bring up information screens on callers before you answer the phone, look up a caller's name and address on the Internet, instantly dial a number at the touch of the screen, forward calls ...and more.

TouchPhone features a 6-inch full screen 640x480 VGA LCD display with touch screen, a 28.8 bps modem, a slide-out QWERTY keyboard with retractable drawer, two line telephone and full duplex hands-free speaker phone. The on-board software includes a Microsoft "Pocket Explorer" browser, an Internet e-mail system, Microsoft Windows CE operating system, a personal information manager and 2000 name address book ...and a digital answering machine with voice mail.

All setup is automatic. Voice mail, e-mail and Internet access are all pre-configured so you need only to plug it in, enter your name and billing information. You can set up the device to automatically retrieve information and display it on the screen. It even has automatic battery backup to maintain operation and save data in the event of a power outage. (<http://www.navitel.com>)

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Ham Operators and Amateur Astronomers Seek Answer to THE AGE OLD QUESTION, "ARE WE ALONE?"

SETI stands for Search for Extra-Terrestrial Intelligence. The acronym was coined in the early 1960's to describe the activities of radio astronomers who were seeking evidence of the existence of intelligent life elsewhere in the Universe. Some SETI searches have turned up a handful of interesting, yet unexplained microwave signals which seem to be emanating from space.

NASA officially launched its SETI effort at NASA's Ames Research Center (Mountain View, CA) on Oct. 12, 1992, the 500th anniversary of Columbus' first voyage. The project consumed 1/10th of 1% of NASA's budget.

The SETI League, Inc. was founded in 1994 as a membership supported, non-profit [501(c)(3)], educational and scientific organization, incorporated in the state of New Jersey. The group maintains its headquarters office and a laboratory in Little Ferry, NJ. Their goal is a worldwide network of thousands of ham operators and amateur astronomy experimenters working together to locate an extra-terrestrial civilization.

SETI League president Richard Factor WA2IKL (Kinnelon, NJ) began the non-profit league shortly after Congress killed funding for the NASA SETI program in 1993. Its executive director, H. Paul Shuch, Ph.D, N6TX (Williamsport, PA) took a leave of absence from his position as professor of electronics at Penn State's College of Technology to head the SETI League. Well-known ham operator, astronomer and author, Clifford Stoll, Ph.D (K7TA, Oakland, CA) is on their advisory board.

The SETI League believes that the probability is that we are not alone in this immense universe. And because our star is young on a cosmic scale, we are the newcomers. "They" have been out there for billions of years. And the chances are that these civilizations are using some form of electromagnetic communications since it is cheap, quick, and universally available.

Before its funding was terminated by Congress, NASA's SETI program consisted of a targeted search of nearby stars and an all-sky survey for unknown, interesting signals. The targeted search has now been assumed by the non-profit California-based SETI institute.

The SETI League plans to survey the sky. No antenna tracking is required, since the entire sky, rather than individual stars, are scanned. While target searching antennas must be constantly moved, sky survey dishes are simply turned by the Earth's rotation.

The sky survey component is better performed with smaller antennas since they can see more sky within their beam patterns. The SETI League achieves reasonable sensitivities through digital signal processing, but the antennas need to scan for extremely long periods of time. The sky survey approach seems ideally suited to the community of radio amateurs and microwave experimenters.

On Earth Day, April 21, 1996, the SETI League's Project Argus All Sky Survey began with five small radio-

telescopes. They hope this number will eventually become thousands, each scanning the entire sky for the telltale microwave signatures of alien civilizations.

Perhaps the most ambitious radio astronomy project ever undertaken without Government equipment or funding, Project Argus is an effort to deploy and coordinate roughly 5,000 small radiotelescopes around the world. When fully operational, Project Argus will provide the first ever continuous monitoring of the entire sky.

It is something that NASA never contemplated: real-time, all-sky coverage. The plan is to divide up the sky and assign a different volunteer monitor to each patch, each listening for radio broadcasts from distant planets.

The aim of Project Argus is to prove once and for all that intelligent extra-terrestrial life exists on other planets. The program uses small, quite inexpensive amateur radiotelescopes, built and operated by SETI League members at their individual expense. A typical amateur radiotelescope can be built for from a few hundred to a few thousand dollars, depending upon the expertise of the builder. The equipment, although of modest sensitivity, will still be capable to detect microwave radiation from technologically advanced civilizations out to a distance of several hundred light years. A SETI ham could well become the first person to discover an alien civilization.

The typical amateur SETI station consists of a 3 to 5-meter diameter satellite TV dish, a suitable feedhorn, low-noise preamplifier, microwave receiver, personal computer with sound card for analog-to-digital conversion, and appropriate digital signal processing software. But even Yagis, quads, helices and loop yagis can be used. The only penalty is in bandwidth.

The SETI League is currently developing the necessary hardware, software, protocols and procedures for distribution to its members worldwide. Their efforts are concentrated on the so-called "Water-Hole," extending from 1420 to 1660 MHz.

The SETI League currently has some 400 members in 17 countries and 24 SETI stations are now online or under construction. The League (Tel. 201/641-1770 Fax 201/641-1771) encourages interested enthusiasts to use its website located at <http://www.setileague.org/>. Their entire Technical Manual is also available online. Members receive a quarterly newsletter, SearchLites.

Thousands of stations may have to work for years to hear "The Signal," ...if indeed they ever do. SETI is definitely a gamble, with long odds but high stakes. To hold interest, the SETI League is planning a number of "on the air activities" of the type you would expect from ham organizations.

They plan to bounce some interesting signals off the moon for their receiving pleasure (and to help test their receivers). And they anticipate generating strange modulation modes as a challenge to their digital signal processing skills, along with some competitions and prizes.